What is claimed is:

1.   Design software for performing an analysis on a proposed design and
application, said design software configured to receive inputs regarding the proposed
design and the application as well as inputs regarding design requirements, said design

5   software configured to perform calculations on the inputs regarding the proposed
design and the application and generate numerical output values based on the
calculations, said design software configured to compare said numerical output values
to said inputs regarding the design requirements, thereby indicating whether the
proposed design meets the design requirements.

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2.   Design software as recited in claim 1, wherein said design software is
configured to display the numerical output values generally proximate corresponding
design requirements for comparison.

15   3.   Design software as recited in claim 1, wherein said design software is
configured to provide a go/no go indication while the inputs are being received, and
before the calculations are performed.

4.   Design software as recited in claim 1, wherein said design software is

configured to generate a deformation plot indicating design requirement inputs

relating to deformation and indicating, for comparison, numerical output values

relating to deformation.

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5.   Design software as recited in claim 1, wherein said design software is

configured to generate a stress results plot indicating design requirement inputs

relating to stress and indicating, for comparison, numerical output values relating to

stress.

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6.   Design software as recited in claim 1, wherein said design software is

configured to generate a deformation plot indicating design requirement inputs

relating to deformation and indicating, for comparison, numerical output values

relating to deformation, and wherein said design software is configured to generate a

15   stress results plot indicating design requirement inputs relating to stress and indicating,

for comparison, numerical output values relating to stress.

7.   Design software as recited in claim 1, wherein said design software is

configured to calculate a safety factors based on inputs received relating to the

20   proposed design and the design requirements, and configured to generate a safety

factor plot.

8.   Design software for performing an analysis on a proposed rivet design and application, said design software configured to receive inputs regarding the proposed rivet design and the application as well as inputs regarding design requirements, said design software configured to perform calculations on the inputs

5   regarding the proposed rivet design and the application and generate numerical output values based on the calculations, said design software configured to compare said numerical output values to said inputs regarding the design requirements, thereby indicating whether the proposed rivet design meets the design requirements.

       9.   Design software as recited in claim 8, wherein said design software is

10   configured to display the numerical output values generally proximate corresponding design requirements for comparison.

       10.   Design software as recited in claim 8, wherein said design software is

15   configured to provide a go/no go indication while the inputs are being received, and before the calculations are performed.

       11.   Design software as recited in claim 8, wherein said design software is configured to generate a deformation plot indicating design requirement inputs

20   relating to deformation and indicating, for comparison, numerical output values relating to deformation.

12.   Design software as recited in claim 8, wherein said design software is configured to generate a stress results plot indicating design requirement inputs relating to stress and indicating, for comparison, numerical output values relating to stress.

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13.   Design software as recited in claim 8, wherein said design software is configured to generate a deformation plot indicating design requirement inputs relating to deformation and indicating, for comparison, numerical output values relating to deformation, and wherein said design software is configured to generate a

10   stress results plot indicating design requirement inputs relating to stress and indicating, for comparison, numerical output values relating to stress.

14.   Design software as recited in claim 8, wherein said design software is configured to calculate a safety factor based on inputs received relating to the

15   proposed rivet design and the design requirements, and configured to generate a safety factor plot.

15.   Design software as recited in claim 8, wherein said inputs regarding the design requirements include at least one of: minimum wall thickness, maximum

20   allowable stress maximum rivet flair, maximum allowable distance from a bottom of a head of the rivet to a workpiece surface, and a maximum allowable under head stress value.

16. A method of designing something using design software, wherein said method comprises: inputting numerical values relating to a proposed design, an application and design requirements; having said design software perform calculations on the inputs regarding the proposed design and the application and generate

5 numerical output values based on the calculations; and comparing said numerical output values to said inputs regarding the design requirements, thereby determining whether the proposed design meets the design requirements.

17. A method as recited in claim 16, further comprising having the design software generate a deformation plot which indicates design requirement inputs

10 relating to deformation and indicates, for comparison, numerical output values relating to deformation, and viewing the deformation plot to determine whether the proposed design meets the design requirements relating to deformation.

15 18. A method as recited in claim 16, further comprising having the design software generate a stress results plot which indicates design requirement inputs relating to stress and indicates, for comparison, numerical output values relating to stress, and viewing the stress results plot to determine whether the proposed design meets the design requirements relating to stress.

19.   A method as recited in claim 16, further comprising having the design

software calculate a safety factor based on inputs received relating to the proposed

design and the design requirements, having the design software generate a safety

factor plot, and viewing the safety factor plot.

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